

REMARKS

In the Office Action mailed March 19, 2004, claims 10 and 20-31 stand rejected under 35 USC §112, second paragraph as being indefinite. Claims 1-8, 10-13, and 17-19 stand rejected under 35 USC §102(b) as being anticipated by U.S. Patent 5,312,395 to Tan et al. (hereinafter "Tan"). Claims 20-28 stand rejected under 35 USC §102(b) as being anticipated by CA Patent 2198826 to Dudley (hereinafter "Dudley"). Claims 9, 14, 15, and 16 stand rejected under 35 USC §103(a) as being obvious over Tan.

Applicants gratefully acknowledge the Examiner's indication that claims 29-31 are allowable if rewritten in independent form.

In the amendment presented above, Applicant has amended independent claims 1 and 7 to more particularly define the present invention over the cited prior art. More particularly, amended claims 1 and 7 recite that the delivered radiation is pulsed wherein each pulse has a duration substantially in the range of 10 $\mu$ sec to 10msec and pulse energy rise time substantially at or below 200 $\mu$ sec. This feature is supported at page 8, lines 8-12 of the specification as originally filed. In addition, these claims have been further clarified by the inclusion of a control system arranged to permit the energy density of the radiation delivered to the skin to be varied within the range 0.5 J/cm<sup>2</sup> to 5 J/cm<sup>2</sup> per pulse, the control system being arranged to inhibit selection of an energy density substantially above 5 J/cm<sup>2</sup> per pulse. This feature is supported at page 11, line 10 through page 12, line 27 of the specification as originally filed. It is respectfully

submitted that the cited prior art references, alone or in combination, fail to teach or suggest these features.

With respect to Tan, the Examiner notes that Tan specifies a pulse duration of 500 nsec. This duration is significantly shorter than the range of pulse durations between  $10\mu\text{sec}$  to 10msec as recited in these claims. Furthermore, there is no specific mention in Tan of a control system that allows the energy density of the radiation delivered to the skin to be varied within the range 0.5 J/cm<sup>2</sup> to 5 J/cm<sup>2</sup> per pulse (and inhibit selection of an energy density substantially above 5 J/cm<sup>2</sup> per pulse) as recited in these claims. Finally, there is no specific mention in Tan of the combination of features now covered by claims 1 and 17, i.e. the fact that a specified pulse duration is used in combination with an energy rise time (which is used up to a defined value) as well as the control system that allows the energy density to be varied within a precise range. It is clear from the detailed discussion in the present application that this combination of features allows for optimum treatment of skin to reduce wrinkles. In contrast, the system of Tan addresses the radiation of pigmented lesions to remove such pigmented lesions, and thus has an application far removed from the wrinkle removing application addressed by the present invention. For these reasons, it is respectfully submitted that claims 1 and 7 are patentable over Tan.

With respect to Dudley, there is no mention of a pulse energy rise time substantially at or below  $200\mu\text{sec}$  nor is there a mention a control system that allows the energy density of the radiation delivered to the skin to be varied within the range 0.5

J/cm<sup>2</sup> to 5 J/cm<sup>2</sup> per pulse (and inhibit selection of an energy density substantially above 5 J/cm<sup>2</sup> per pulse) as recited in these claims. Finally, there is no specific mention in Dudley of the combination of features now covered by claims 1 and 17, i.e. the fact that a specified pulse duration is used in combination with an energy rise time (which is used up to a defined value) as well as the control system that allows the energy density to be varied within a precise range. It is clear from the detailed discussion in the present application that this combination of features allows for optimum treatment of skin to reduce wrinkles. In contrast, the system of Dudley addresses the radiation of blood vessels to coagulate such blood vessels, which is particularly useful in the treatment of leg telangiectasia, and thus has an application far removed from the wrinkle removing application addressed by the present invention. For these reasons, it is respectfully submitted that claims 1 and 7 are patentable over Dudley.

Dependent claims 2, 4-6, 8-16 and 19 are patentable over the cite prior art references for those reasons advanced above with respect to independent claims 1 and 17 from which they respectfully depend, and for reciting additional features neither taught not suggest in the cited prior art references.

Independent method claim 20 has not been amended. Applicants respectfully submit that the cited prior art references fail to teach or suggest the specific methodology recited therein. More particularly, the cited prior art references make no mention of "cosmetically reducing wrinkles from a superficial area of mammalian skin tissue" as recited in claim 20. As noted above, the system of Tan applies radiation to pigmented

lesions to remove such pigmented lesions, while the system of Dudley applies radiation to blood vessels to coagulate such blood vessels. In addition, the prior art references make no mention of the "irradiation being selected to be absorbed by a chromophore in targeted capillaries present in said dermal layer, the targeted capillaries having fenestrations permitting transfer of inflammatory mediators through the capillary wall upon selective heating to a threshold level, while said basal layer remains intact so as to substantially inhibit contact of said dermal layer with ambient air." Finally, the prior art references make no mention of the irradiation being pulsed and having "i) an energy density of substantially 5 J/cm<sup>2</sup> or less; and/or ii) energy pulse rise time substantially at or below 200 $\mu$ s." It is clear from the detailed discussion in the present application that this combination of features allows for optimum treatment of skin to reduce wrinkles. For these reasons, it is respectfully submitted that method claim 20 is patentable over the cited prior art.

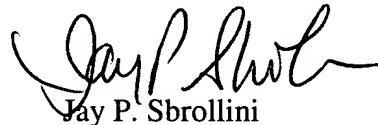
Dependent claims 21-31 are patentable over the cite prior art references for those reasons advanced above with respect to independent claim 20 from which they respectfully depend, and for reciting additional features neither taught nor suggested in the cited prior art references.

Applicant has amended the claims 10 and 30 to address the §112 issues identified by the Examiner. It is respectfully submitted that the amendment to claim 30 addresses the Examiner's concern with respect to claim 31. Applicant respectfully traverses the Examiner's rejection of claim 20 under §112. It is clear from the page 10 of the

specification as originally filed that bypass (e.g., selective removal) of the epidermis is an optional step in the methodology of the present invention, and thus specific process steps that are applied directly to the epidermis are not necessarily part of the methodology of the present invention.

In light of all of the above, it is submitted that the claims are in order for allowance, and prompt allowance is earnestly requested. Should any issues remain outstanding, the Examiner is invited to call the undersigned attorney of record so that the case may proceed expeditiously to allowance.

Respectfully submitted,



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